(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 19 June 2003 (19.06.2003)

PCT

(10) International Publication Number WO 03/049648 A3

(51) International Patent Classification7: A61F 2/24, 2/00

(21) International Application Number: PCT/US02/38586

(22) International Filing Date: 3 December 2002 (03.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/011,867 5 December 2001 (05.12.2001) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US 10/011,867 (CON) Filed on 5 December 2001 (05.12.2001)

(71) Applicant (for all designated States except US): CAR-DIAC DIMENSIONS, INC. [US/US]; 5540 Lake Washington Blvd., Kirkland, WA 98033 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ALFERNESS,

Clifton, A. [US/US]; 9010 - 258th Ave NE, Redmond, WA 98053 (US). ADAMS, John, M. [US/US]; 20621 Southeast 34th Street, Sammamish, WA 98075 (US). MATHIS, Mark, L. [US/US]; 10624 Northeast 60th Street, Kirkland, WA 98033 (US). REUTER, David, G. [US/US]; 3225 - 208th PI SE, Bothell, WA 98021 (US).

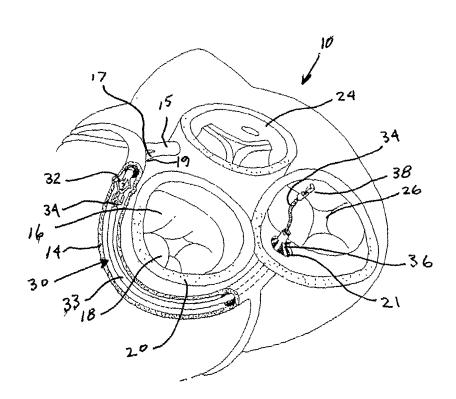
(74) Agent: GRAY, Richard, O., Jr.; Graybeal Jackson Haley Llp, 155 - 108th Avenue NE, Suite 350, Bellevue, WA 98004-5901 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: ANCHOR AND PULL MITRAL VALVE DEVICE AND METHOD



(57) Abstract: A device, system, and method effects mitral valve (30) annulus geometry of a heart. The device includes a first anchor configured to be positioned within and fixed to the coronary sinus of the heart adjacent the mitral valve annulus within the heart. A cable (34) is fixed to the first anchor (32) and extends proximately therefrom and slidingly through a second anchor (36) which is positioned and fixed in the heart proximal to the first anchor (32). A lock locks the cable to the second anchor (36) when tension is applied to the cable for effecting the mitral valve annulus geometry.

WO 03/049648 A3

WO 03/049648 A3



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

(88) Date of publication of the international search report:

18 September 2003

(15) Information about Correction: Previous Correction:

see PCT Gazette No. 30/2003 of 24 July 2003, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/38586

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61F 2/24; A61F 2/00 US CL : 623/2.36; 600/37 According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) U.S.: Please See Continuation Sheet				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)				
C. DOC	UMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a		Relevant to claim No.	
Y	US 2001/0018611 A1 (SOLEM et al) 30 August 20	01 (30.08.2001), Figures 12-13;	1, 2, 4-11, 13-20, 22	
Y, P	paragraphs [0022] and [0054]. US 2002/0151961 A1 (LASHINSKI et al) 17 Octob	per 2002 (17.10.2002), Figures 17B-	1, 2, 4-11, 13-20, 22	
Y, P	17C; paragraph [0146]. US 2002/0169504 A1 (ALFERNESS et al) 14 November 2002 (14.11.2002), Figure 8; paragraph [0064]. 3, 12, 21, 31, 42			
A, E	US 2002/0183837 A1 (STREETER et al) 05 Decem	iber 2002 (05.12.2002), abstract;	1-43	
Figure 5. A, P US 2002/0169502 A1 (MATHIS) 14 November 200		02 (14.11.2002), Figures 3-4.	1-43	
	-			
Further documents are listed in the continuation of Box C.		See patent family annex.		
* Special categories of cited documents: "T"		"T" later document published after the inter date and not in conflict with the applica		
"A" document defining the general state of the art which is not considered to be of particular relevance		principle or theory underlying the inver "X" document of particular relevance; the o	ntion	
"E" earlier ap	plication or patent published on or after the international filing date	considered novel or cannot be consider when the document is taken alone	ed to involve an inventive step	
	which may throw doubts on priority claim(s) or which is cited to the publication date of another citation or other special reason (as	"Y" document of particular relevance; the considered to involve an inventive step combined with one or more other such	when the document is	
"O" document	referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in the		
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent i	amily	
Date of the actual completion of the international search Date of mailing of the international search report			rch report	
05 March 2003 (05.03.2003)		16 MAY 2003		
Name and m	ailing address of the ISA/US	Authorized officer	,	
Commissioner of Patents and Trademarks Box PCT		Urmi Chattopadhyay Dian Smit J		
Washington, D.C. 20231		Telephone No. (703) 308-8510	7 1	
Facsimile No. (703)305-3230		1010hitotic 140. (103) 300-0310		

	PCT/US02/38586
INTERNATIONAL SEARCH DEPORT	101/0502/50500
INTERNATIONAL SEARCH REPORT	
	1
Continuation of B. FIELDS SEARCHED Item 1:	
623/2.36; 606/37; 623/1.1, 1.11, 1.12, 1.15, 1.16, 1.18, 1.2, 2.1, 2.11, 2.37, 11.	.11; 606/108, 191, 192, 194, 195, 198; 600/16;
128/898	
,	

CORRECTED VERSION

(19) World Intellectual Property Organization International Bureau

AIPO

- 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 | 1

(43) International Publication Date 19 June 2003 (19.06.2003)

PCT

(10) International Publication Number WO 03/049648 A2

- (51) International Patent Classification7: A61F 2/24, 2/00
- (21) International Application Number: PCT/US02/38586
- (22) International Filing Date: 3 December 2002 (03.12.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:

10/011,867 5 December 2001 (05.12.2001) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

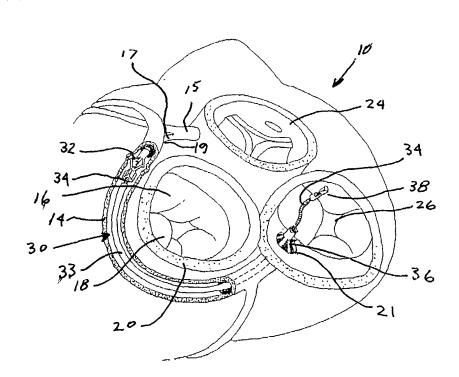
US 10/011,867 (CON) Filed on 5 December 2001 (05.12.2001)

(71) Applicant (for all designated States except US): CAR-DIAC DIMENSIONS, INC. [US/US]; 5540 Lake Washington Blvd., Kirkland, WA 98033 (US).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ALFERNESS, Clifton, A. [US/US]; 9010 - 258th Ave NE, Redmond, WA 98053 (US). ADAMS, John, M. [US/US]; 20621 Southeast 34th Street, Sammamish, WA 98075 (US). MATHIS, Mark, L. [US/US]; 10624 Northeast 60th Street, Kirkland, WA 98033 (US). REUTER, David, G. [US/US]; 3225 - 208th PI SE, Bothell, WA 98021 (US).
- (74) Agent: GRAY, Richard, O., Jr.; Graybeal Jackson Haley Llp, 155 108th Avenue NE, Suite 350, Bellevue, WA 98004-5901 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: ANCHOR AND PULL MITRAL VALVE DEVICE AND METHOD



(57) Abstract: A device, system, and method effects mitral valve (30) annulus geometry of a heart. The device includes a first anchor configured to be positioned within and fixed to the coronary sinus of the heart adjacent the mitral valve annulus within the heart. A cable (34) is fixed to the first anchor (32) and extends proximately therefrom and slidingly through a second anchor (36) which is positioned and fixed in the heart proximal to the first anchor (32). A lock locks the cable to the second anchor (36) when tension is applied to the cable for effecting the mitral valve annulus geometry.

WO 03/049648 A2

WO 03/049648 A2



(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report (48) Date of publication of this corrected version:

24 July 2003

(15) Information about Correction:

see PCT Gazette No. 30/2003 of 24 July 2003, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.